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AZ CORP COMMISSION
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IN THE MATTER OF THE
APPLICATION OF ARIZONA PUBLIC
SERVICE COMPANY FOR APPROVAL
OF ITS 2010 RENEWABLE ENERGY
STANDARD IMPLEMENTATION PLAN
AND DISTRIBUTED ENERGY
ADMINISTRATIVE PLAN AND
REQUEST FOR RESET OF
RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-01345A-09-0338

**THE SOLAR ALIANCE'S NOTICE
OF FILING**

The Solar Alliance ("Solar Alliance"), by its counsel undersigned, hereby provides
notice of filing its attached comments to the Staff Report in the above-referenced matter.

Dated this 9th day of December, 2009.

RIDENOUR, HIENTON, & LEWIS, P.L.L.C.

By

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This 9th day of December, 2009 with:

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Arizona Corporation Commission
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1 COPY of the foregoing HAND-
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TO: The Arizona Corporation Commission

FROM: The Solar Alliance

DATE: Dec. 9, 2009

DOCKET No.: E-01345A-08-0338

The Solar Alliance (Alliance) appreciates this opportunity to address the Corporation Commission regarding: THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR THE APPROVAL OF ITS 2010 IMPLEMENTATION PLAN AND DISTURBED ENERGY ADMINISTRATIVE PLAN AND REQUEST FOR RESET OF RENEWABLE ENERGY ADJUSTOR.

The Alliance would like to express its conditional support for the 2010 Renewable Energy Standard and Tariff (REST) Implementation Plan. The Plan is a good faith and creative effort on behalf of Arizona Public Service Company (APS) to meet all requirements of the 2010 REST goals.

The Alliance would also like to congratulate the Corporation Commission, APS and others for their role in support of the enormous growth in the residential market that has occurred in 2009. As of the September 30, 2009 quarterly update, APS has partnered to help install over 4,900 kW of residential solar electric systems in 2009. Compared to the approximately 2,000 kW of residential solar electric systems that were installed in 2008, this represents tremendous growth. APS is now on track to come close to meeting its residential REST requirement.¹

Despite this success, there are a number of points of concern related to the details of policy and program design, especially related to the proposed utility ownership program that need to be addressed. The below recommended changes are necessary if the most current plan is to be programmatically capable of meeting REST Goals.

Non-Residential Incentives

ACC decision 71275 gave APS assurance of cost recovery for its Performance Based Incentives (PBI). It also directed APS to decrease its PBI by 10%. While the Alliance does not, in principle, oppose this reduction, it should be noted that the 10% number is essentially arbitrary. The table below demonstrates how, due to the 60% of system cost caps a 10% reduction in PBIs will have no financial impact on REST funds beyond those associated with the time value of money. This table describes a hypothetical, 1MW project with a 10-year contract/20 year PBI.

¹ http://www.aps.com/_files/solarRenewable/REIPQ120090413.pdf

| | Current Incentive for 10-year PBI | 10% Reduction for 10-year PBI |
|-------------------------|-----------------------------------|-------------------------------|
| PBI | \$0.25/kWh | \$0.225/kWh |
| System Size | 1MW | 1MW |
| Annual kWh Generated | 1,750,000 kWhs | 1,750,000 kWhs |
| Annual PBI payment | \$437,500 | \$393,750 |
| Total System Cost | \$5.5 million | \$5.5 million |
| Total Incentive Payment | 60% = \$3.3 million | 60% = \$3.3 million |
| Years to reach 60% cap | 7.54 years | 8.38 years |
| UFI equivalent | \$3.30/ W-STC | \$3.30/W-STC |

The total cost of this project is \$5.5 million. Under the current incentive, annual PBI payments would be \$437,500 and the time it would take to reach the incentive cap would be roughly 7 ½ years. Over the lifetime of the project, APS would pay \$3.3 million (60% of \$5.5 million). If the PBI were reduced by 10%, annual PBI payments would be slightly lower—\$393,750—and it would take a little over 8 years to reach the 60% cap. In other words, under both incentive structures, the overall impact on REST funds is the same: \$3.3 million in total incentive payments. Under this scenario, reducing the incentive level has little overall impact on lifetime REST funds.

While a scheduled reduction in PBIs of 10% provides a measure of predictability to the market, the above analysis indicates that 10% may be inadequate. The Alliance believes that APS is in a better position to offer—with industry input—a recommendation for an incentive adjustment in the non-residential sector *based directly on market conditions*. It is therefore proposing that APS do away with percentage-of-total-system-price incentive caps altogether and rely on declining incentive triggers as the primary mechanism for matching incentives to market demand. These will be discussed below.

Residential Incentives

In the Alliance filings leading up to the PBI cost recovery decision (71275) the Alliance suggested a proposal to increase the residential incentive cap to 60% so that parity is reached with APS's non-residential program and with TEP's residential program (which offers \$3.00 per watt UFI up to 50% of total system cost. Upon further consideration the Alliance now believes that a more workable solution would be to eliminate incentive caps that operate as a function of total system cost altogether, and

instead utilize declining incentive mechanisms as the method to match incentives to the market . There are several reasons why percentage based incentive caps are disadvantageous.

1. They are essentially arbitrary and do not change with market conditions as would a declining incentive trigger mechanism. If the total price of most solar systems is over 100% of the incentive amount then the cap does nothing (See below).
2. Lowering the per-watt incentive might not decrease the incentive in the end.
3. As the total system price goes up the after incentive price goes up only incrementally this invites gaming.

| | APS | APS (After Incentive Reduction) | Scenario where total system price is inflated.* | SRP |
|-------------------------------------|----------|---------------------------------|---|----------|
| Cost of Solar System | \$14,000 | \$14,000 | \$15,000 | \$14,000 |
| Cap | 50% | 50% | 50% | No Cap |
| Incentive amount per Watt | \$3.00 | \$2.70 | \$3.00 | \$2.70 |
| Number of Watts | 3,000 | 3,000 | 3,000 | 3,000 |
| Incentive Before Cap | \$9,000 | \$8,100 | \$9,000 | \$8,100 |
| Incentive if Cap is Met | \$7,000 | \$7,000 | \$7,500 | NA |
| Incentive Customer Receives | \$7,000 | \$7,000 | \$7,500 | \$8,100 |
| Cost of the system after Incentives | \$7,000 | \$7,000 | \$7,500 | \$5,900 |
| Cost after 30% federal tax break | \$2,800 | \$2,800 | \$3,000 | \$1,700 |

* Gaming could occur where the true cost of the system is \$13,000 or but the system is sold at \$14,000 because below the cap the cost after incentives (to the customer) only goes up \$500 for every \$1000 the total cost is. This is exacerbated by the 30% Federal Tax Credit. In this scenario you can see that the cost of system went up by a \$1,000 but the final after incentive price by only \$300

Incentive Trigger Mechanisms

The Alliance expects residential demand in the coming months, if not weeks, to reach levels that will lead to APS's compliance with the residential requirement. Now is the time to develop trigger mechanisms that lead to automatic reductions in the UFI rate in order to ensure that market stability is maintained for Arizona's solar industry. There are several potential advantages to a declining incentive trigger mechanism for upfront incentives.

1. Such a system can maximize the number of kW's installed per ratepayer dollar collected without imposing a delay on the market while APS requests program changes through the Commission.

2. Experience in Arizona suggests that if incentives are scheduled to decline or expire then demand can often skyrocket. In April 2009, SRP received just over 50 applications for incentives to install residential PV systems. At the end of April, SRP announced that the incentives would be declining and in May they received well over 400 applications.²
3. This system could serve as a simplified proxy for market forces in the price-setting mechanism, eliminating the need for a reverse-auction system whose high transaction costs and administrative burden appear to be inappropriate and expensive in the residential context.

Failure to establish triggers now could cause start-stop conditions, as recently experienced in TRICO and SSVEC service territories. If APS were to meet its Residential DG requirements midway through the year and funding was completely exhausted, it could have devastating impacts on the industry and the market. Accordingly, any workshop to include the discussion of trigger mechanisms should include residential as well as non-residential market segments.

Promotional Incentive

APS is proposing a promotional incentive initiative for residential customers. This program would provide a supplemental financial incentive, in addition to the standard incentive. The Alliance supports this effort and believes it will help insure that the residential DG requirement is met. The Solar Alliance recommends that APS offer a bonus incentive of \$0.50 per W-STC on top of its existing program incentive (without consideration of the 50% cap) on the first 500 individual residential project applications received after January 1, 2009. It also recommends that only projects with a retail price at or below \$6.50 / W-STC be eligible for the bonus incentive.

Statewide Marketing Program

The Alliance supports the APS Community Based Marketing/Outreach program and the associated partnership with SmartPower. Several Solar Alliance members have worked with this organization before in the state of Connecticut and reports of their professionalism and efficacy have been positive.

The Supplement indicates that the expansion of APS's marketing program would add only \$1.2 million to APS's 2010 marketing budget. It is recommended that APS spend the majority of its marketing budget in the first two quarters of 2010, as participation is historically already high in the second half of the year.

Utility Ownership

AZ Sun Program

Out of all the proposed changes included in the 2010 APS Implementation Plan the AZ Sun Utility Ownership plan has the most potential to drastically change the way in which solar energy is developed

² SRP RP Workshop 8/5/2009 PowerPoint from R.M Hayslip

in the state. APS is proposing to invest \$500 million to develop 100 MW or more of utility-owned solar resources. APS seems to believe that the majority of these systems would be utility-scale. While the Alliance is not opposed to utility ownership in concept we have several serious concerns directed towards maintaining a stable and growing role for independent developers in parallel with APS' own efforts.

This could be a highly significant shift in the market, and we feel that any Commission decision on utility ownership should be preceded by a stakeholder workshop. The Alliance supports the AZ Sun program *provided that energy created by utility owned assets does not count toward the DG Requirement*. The definition of the Distributed Energy should be modified accordingly, such that if a utility owns a solar asset the energy it produces is not counted toward Distributed Generation requirement.

Although it is not mentioned in the 2010 plan, APS is planning on installing a 20 MW solar plant that they will own and operate in 2010. The facility will be located "behind the meter" and APS intends for the energy it produces to count toward the non-residential DG requirement. We estimate that this project will meet 85% of APS' new non-residential DG generation requirement, conceivably nearly eliminating the market for independent developers in this sector for that year. This would likely cause significant reductions in the ability of independent developers to service this sector in the future, effectively foreclosing on an alternative option for low-cost solar installations that we feel has served ratepayers well to date.

Moreover, it is important to point out that Section R-14-2-1805 D. of the RES requires that "An Affected Utility shall meet one-half of its annual Distributed Renewable Energy Requirement from residential applications, and the remaining one-half from non-residential, *non-utility applications*" (emphasis added). The AZ Sun program, as described, is clearly a utility program, and thus cannot be used to satisfy the DRER requirement.

Finally, it is not clear that a single 20 MW customer sited, utility-owned DG power plant according to Section R14-2-1801 E. of the REST rules would be eligible for the wholesale component of the DG program. This section defines the wholesale component as "...capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas." A behind the meter 20 MW system would likely not meet the criteria of "use by multiple customers."

The Alliance believes that the fairest and simplest compromise would be to allow APS to engage in utility ownership, but to not allow to them count these systems as distributed generation.

| | |
|---|---------|
| Year | 2010 |
| APS DG Requirement in MWh | 146,880 |
| APS non-residential DG requirement | 73,440 |
| Yearly Production of the 20 MW Non-Res DG solar system that APS has indicated that they intended to own and operate. | 34,00 |
| Percentage of Non-Residential DG requirement met by the APS owned Systems | 46% |
| Estimate of MWh production from New Non-Residential DG that APS needs to install in 2010 to meet REST Goals* | 39,951 |
| Percentage of production from new Non-Residential DG to be installed in 2010 that will be from a single utility owned project | 85% |

*APS is expecting to generate 33,489,822 MWh in 2009 from Non-Res DG -- Sept 2009 Quarterly update. As can be seen in the graph above, APS is proposing some significant and systemic changes to the Distributed Generation Program and there are a number of important issues regarding utility ownership that are not addressed in the 2010 Implementation Plan that would benefit from a workshop process. However, in the mean time it is important to prevent these projects which are utility scale in nature from counting toward the DG requirement.

1. The term "customer sited" and, in general, the definition of distributed generation, needs to be more clearly defined. To provide an extreme example, under the current definition, a 200 MW solar field owned by the utility and feeding electricity to a mining facility some miles away could conceivably qualify as a Distributed Generation project as long as the solar system was on the mine's property. It is not clear to the Alliance that the Commission had this type of arrangement in mind when they drafted the Distributed Generation section of the REST rules. There's a strong argument that facilities owned by the utility are creating "wholesale" power and thereby do not qualify for the Distributed Renewable Energy Requirement beyond the provisions placed in section R14-02-1805 E, of the REST rules.
2. A careful financial analysis of utility owned projects needs to be performed and vetted by the Commission in order to ensure that these projects are competitive with those where ratepayer

funding is significantly leveraged by private investment dollars through independent developers. The utility is planning to utilize REST funds along with traditional rate-based funds to install and run utility owned systems. The utility will likely be eligible to capture Federal Tax Benefits, including the Accelerated Depreciation and the Business Investment Tax Credit. They are also planning to sell energy that the system creates and to maintain the option to sell the physical assets of the renewable energy system after the contract period. APS is also seeking permission to receive a reasonable "rate of return" from REST funding. When one considers these factors it is clear that there is potential to make substantial profit from a utility ownership program. While this would certainly mitigate one of the utilities traditional criticisms of DG, namely that it represents lost revenue for the utility, it is not clear that a utility ownership DG model will provide the highest kW of capacity per ratepayer dollar in comparison to the current system where the DG site host must provide funds for around half the system cost. All cost must be considered and this is a very complex task.

3. It is important for the Commission to identify whether or not entities owned by Pinnacle West, such as APS Energy Service (APSES), would be eligible to participate in RFPs for these systems, and if so, what safeguards would be put in place through the RFP process.

If the Commission does authorize APS to own solar power plants using REST funds, the Alliance recommends the following "guiding principles" should be included as part of any program design. These principles have been developed through work in other states where the Alliance has been an active participant in decisions related to the sensitive issue of utility ownership.

1. Where utilities propose to own solar assets, these programs should not foreclose other market deployment options. To that end:
 - a. Utility asset ownership should not account for more than 25% of total program design, based on total capacity (MW), energy generation (MWh) or funding levels.
2. Utility programs should explicitly allow for customer-owned systems served by independent solar companies.
 - a. Where systems are deployed that provide electricity directly to a utility, ratepayers are best served by providing for continued competition between utility and third-party development and/or ownership.
3. The Alliance supports utility ownership (including internal utility development) of solar assets where the cost advantages are clear.
 - a. In cases where a utility proposes to construct projects using internal resources, the full costs of deployment, including project management, should be used in comparing ratepayer impact to the costs of projects developed by third parties and sold to a utility.

- b. The competitive process should include comparing the ratepayer impact of a third party providing electricity under a long-term Solar Service Agreement (SSA) with the per-kWh cost of energy of a system owned by the utility over the same time frame.
- 4. Regulations should make utilities indifferent between owning a solar asset and entering into a Solar Service Agreement (SSA). Policy options to accomplish this end can include:
 - a. Utilities offering third-party project developers standard contract terms with SSA pricing equivalent to the utility's cost structure, including reasonable profits. In other words, SSA providers should be able to sell electricity to utilities, at a rate equivalent to the price a utility would have to charge its ratepayers to own and operate a system of the same size.
 - b. Allowing utilities to earn a regulated rate of return on SSAs.
- 5. 3rd evaluator customers getting the best deal

Qualified Contractors

The Alliance strongly supports APS's effort to create a qualified contractors program. Due to the economic downturn in the construction industry and the increasing availability of solar products, a surge of new companies have established themselves as renewable energy system integrators in Arizona. While real competition is a positive development and can significantly lower prices, it is vital to the industry to make sure system integrators receiving incentives through APS possess the necessary licenses and skilled workforce required to ensure consumer satisfaction and long term system reliability.

Revolving Loan Program

APS has accurately identified the high up-front cost of a solar system as the primary obstacle to participation in its residential program. The Alliance therefore applauds APS's efforts to provide a revolving loan program in partnership with private lenders. However, the Alliance believes that there are two additional things which APS could do which would help overcome this obstacle.

First, increasing the incentive cap of the residential incentives to 60% would immediately reduce the up-front cost of the solar system by 10%. While staff is correct in pointing out that the potential number of systems that could be funded would decline, this is not an issue so long as APS remains behind compliance in the residential sector.

Homebuilder / Solar Homes Program

The Alliance supports the APS Solar Homes Program. This sector of the residential market has tremendous potential. 2009 has seen a drastic uptake in the number of new homes being built with solar as a standard feature. As the Arizona home market recovers it is likely that this market will expand dramatically. APS's proposal to provide a supplemental incentive, multi-year funding and non-monetary

benefits such as cooperative marketing and training have the potential to speed solar deployment, as well as recovery of the housing industry.

Conclusion

We appreciate this opportunity to submit comments. Overall, as the various parties involved gain experience with the REST program, we feel that it is becoming a truly viable mechanism for meeting renewable energy goals in a manner responsible to the rate payers. We feel that if the above suggestions are implemented the conditions will be right for APS to successfully reach full compliance in 2010.